CHAPTER III
Research Method

This research discusses the method used by the writer in the study. It involves design of the research, method of research, the procedure of obtaining data, and technique analyzing data.

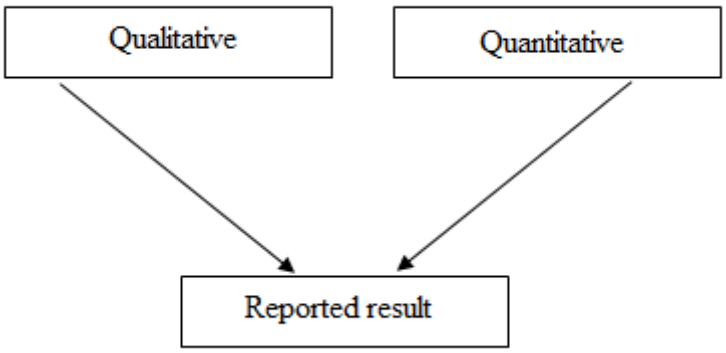
3.1 Design of the Research

> Mix methods is a research approach, popular in the social, behavioral, and health sciences, in which researchers collect, analyze, and integrate both quantitative and qualitative data in a single study or in a sustained long-term program of inquiry to address their research questions. (Creswell, 2013)

This research uses both quantitative and qualitative approaches. It is needed to answer the problem formulation summarized in chapter 1. The quantitative data will be interpreted qualitatively and tested by SPSS 22 program. After the problem identified, followed by reviewing reading material or literature, the next step is to determine and clarify the purpose of the research and followed by the data analysis. From determining problems to report, everything takes place in a process that is regularly and systematically.

The research design uses one group pre-test post-test. This research is conducted in one class. In the beginning students in the class were given a pre-test, after the pre-test the students were given learning by the mind mapping method. In the final stage, after mind mapping method was given to students so students are given a post-test. Thus it can be known more accurately, because it can compare by held before being given treatment.

Figure 3.1 Single Study Mix Method



(Creswell and Clark, 2007)

3.2 Population and Sample

Gravetter and Forzano (2009) say that a population is the entire set of individual of interest to a research. The population of this research is class VIII D which the total of the class is 10 classes. It is located at Jl. Baturaden VIII No.19, Bandung.

Sugiyono (2016:85) states that purposive sampling *adalah teknik pengambilan sampel sumber data dengan pertimbangan tertentu*. In term of deep analysis, the researcher only use one class and it is class VIII D of SMPN 48 Bandung in 2018-2019 academic year that consists of 32 students as the sample based on the school recommendation.

3.3 Technique of Data Collection

The data collection in this research included research instrument, they are;, observation, interview, test, and questionnaire.

3.3.1 Interview

The first data collected by conducting the interview. This research uses interview to obtain the students' and teacher's opinion about the teaching process to find out the deficiency and advantages. The data will be used as the consideration in making a better method of teaching reading comprehension.

3.3.2 Observation

Observation can show the students' attitude in teaching learning process that can be observed, in the real situation or in the setting situation. In the other word, observation is needed to get the information about teaching learning process of reading comprehension about descriptive text by using Mind Mapping method, in teacher side and in students' side. The data will be described in a field notes.

3.3.3 Test

The test technique is used to obtain data or information about the reading comprehension to the topic of the descriptive text. The test of reading comprehension given to students in the form of **pre-test** and **post-test**. The tests are carry out before and after receiving treatment for the implementation of Mind Mapping Method. The students are order to choose the answer in multiple choices form. The data also tested by SPSS 22 program to gain the validity and reliability.

3.3.4 Questionnaire

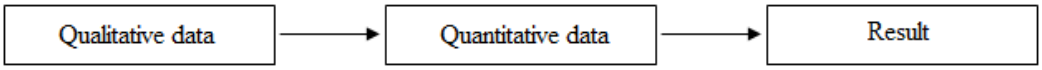
Questionnaire comprises a set questions concerning with the students' response toward the Mind Mapping Method. It is aimed to gain some data related to the procedures of using the method in the classroom and to know how the teacher taught in the classroom. This research uses closed questionnaire and the

Likert Scale which consists of a group of statements that should be completed.There are five responses category: SS (Strongly Agree) is given score 4, the S (Agree) is given score 3, the KS (Doubtful) is given score 2, the TS (Disagree) is given score 1 and the STS (Strongly Disagree) is given score 0.

3.4 Data Analysis

After all the data collected, it must be analyzed accurately and objectively. The researcher uses several steps to analyze the data as it stated according to the procedure of obtaining data.

Figure 3.2 Way of Mixing Qualitative and Quantitative Data



> By mixing the datasets, the researcher provides a better understanding of the problem than if either datasets had been used alone. Figure 3.3 presents that it is not enough to simply collect and analyze qualitative and quantitative data, they need to be "mixed" in some way so that together they form a more complete picture of the problem than they do when standing alone. (Creswell, 2007:66).

3.4.1 Interviews and Observations

Qualitative data obtained from the interviews, observations, and the process of method implementation. Those are used to describe the profile of the mind mapping method on the teaching reading comprehension material about descriptive text.

3.4.2 Test

Quantitative data in the form of the results of the students' pre-test and post-test that have been obtained are then cultivated and interpreted qualitatively and tested by SPSS 22 program.

3.4.3 Validity Test

Validity test shows the extent of measuring devices used to measure what is measured. The way to do this is by correlating the scores obtained on each question item with the total individual scores. Validity testing is carried out with the assistance of the SPSS 22 program. Decision making is based on the calculated r value (Corrected Item-Total Correlation)> r table of 0.378. The decision making criteria are based on r count as follows:

- If r arithmetic> 0.378 then it is declared valid
- If r arithmetic <0.378 then it is declared invalid

3.4.4 Reliability Test

Understanding reliability is to measure an indicator of a variable or construct. Question items are said to be reliable or reliable if student's answer to the question is consistent. This test is done by comparing the *Cronbach alpha* numbers with the minimum *Cronbach alpha* value of 0.6. If the *Cronbach* value obtained from SPSS 22 is greater than 0.6, it can be concluded that the question is reliable. The results that have been obtained are then concluded by looking at the results of *Cronbach's Alpha* is a measure of reliability that has values ranging from zero to one. Eisingerich & Rubera, (2010:27) states that the minimum reliability level value of *Cronbach's Alpha* is 0.70. The value of the reliability level of *Cronbach's Alpha* can be shown in the following table:

Table 3.1 Reliability Level *Cronbach's Alpha* Value

***Cronbach's Alpha* Value**	**Reliability Level**
0.0 - 0.20	Less Reliable
>0.30 – 0.40	Rather Reliable
>0.50 – 0.60	Reliable Enough
>0.07 – 0.80	Reliable

In analyzing the numerical data, the researcher tries to get the average of students'score. It uses the formula:

$$\overline{X} = \frac{\sum X}{n}$$

Explanations:

$\overline{X}$ = mean

x = individual score

n = number of students

After getting the mean of students' pre-test and post-test score, the researcher identifies whether or not there might have student's improvement score on reading comprehension. In analyzing that, the writer uses the formula adapted from Meltzer (2008):

$$\text{P} = \frac{y1-y}{y} \text{ x } 100\%$$

Explanations:

P = Percentage of students' improvement

y = pre-test result

$y1$= post-test

3.4.5 Questionnaire

Arikunto (2006 : 204) state that quantitative data from students' response in form of questionnaire are summed then compared to the expected amount so that the percentage is obtained. This data is analyzed by quantitative descriptive analysis techniques expressed in the distribution of scores and percentages of the assessment scale categories that have been determined. After getting the percentage, the next steps are describe and draw a conclusions about each indicator. Conformity of aspects in the implementation of learning method:

Table 3.2 Percentage Scale of Student Response Levels

Presentation of Achievement (%)	Interpretation
81-100	Strongly Agree
61-80	Agree
41-60	Doubtful
22-40	Disagree
0-21	Strongly Disagree

Furthermore, to obtain the percentage of response to the implementation of the method as shown in the table above, the equation is used.

$$Percentage\ of\ achievement = \frac{score\ \ obtained}{expected\ \ \ score}\ x\ 100\%$$

(Arikunto, 2006 : 244)